

Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.

UNITED STATES
DEPARTMENT
OF AGRICULTURE

Radio Service

OFFICE OF
INFORMATION

HOUSEKEEPERS' CHAT

Wednesday, January 22, 1936

(FOR BROADCAST USE ONLY)

Subject: "FOOD THAT BUILDS MUSCLE." Information from the Bureau of Home Economics, United States Department of Agriculture.

--ooOoo--

As we all know nowadays, food furnishes the materials that build the human body, as well as the energy that keeps it alive and active. And as we all know, for body building, just as for energy, some foods are more important than others. Nutritionists call some "building foods", just as they call others "energy foods". The building foods are those rich in substances that go to make muscles, bones, and other tissues of the body. The proteins (pro-teens) are the chief muscle-builders and the foods most important for their protein are milks, cheese, meat, fish, poultry, and eggs, also nuts, peanuts, and soybeans. Nearly all foods contain some protein, but the protein varies in quantity and in quality, or "efficiency", as the nutritionists say.

Maybe you would like to know what protein is. The dictionary says the word comes from a Greek verb meaning "to be first". Nearly a hundred years ago, a scientists gave the name protein to what he believed to be the main substance of the body. The plural form "proteins", has come to mean a large number of related chemical compounds which are essential to the formation of all plant and animal tissues. Plants manufacture their protein from materials they get from the soil and air. Animals must get theirs, more or less ready-made, in their food. If you are interested in the chemistry of your food, you may like to know that proteins are made of substances called amino acids, which always contain nitrogen, as well as carbon, hydrogen, and oxygen, the elements in carbohydrates and fats. The amino acids number 18 or more, and they form different combinations, or compounds, each of which we call a protein.

So many combinations of amino acids exist -- that is, so many proteins, that no one food contains them all, nor does the body need to get them all in its food. But some of the amino acids are essential, and when a food contains them in good proportions, we call its protein "efficient", or high-quality. Then, in a food where only some of the essential amino acids are present, or where they are in very small quantities, the protein is not of good quality, or is "inefficient"; that is, inadequate for the body needs.

Milk, cheese, meats, fish, poultry and eggs are rich in proteins containing all the essential amino acids. Theirs is first quality, "efficient" protein.

Nuts and the bean family (legumes) are also rich in protein, but of varying quality and usefulness. Nuts are rich in good protein, but they are also very rich in fat. For this reason you can hardly eat enough nuts to meet the protein requirement without getting more fat in the diet than is good for you.

Peanuts and soybeans also contain protein of good quality. In the common beans and peas, the percentage of protein is high, but of a quality that needs reinforcement from other foods, such as some meat, as in chili con carne, or a glass of milk with the meal.

All the other vegetables, and the grains and the fruits contain protein, but for the most part it is not of high quality. In the leafy vegetables the protein quality is good, but there is too little to count very much.

Almost any of the grains, with milk, furnish a good protein combination -- for example, oatmeal and milk, as a breakfast food; or whole-wheat chowder; or a corn chowder. The same is true of macaroni and cheese, or vegetables scalloped in milk or cheese sauce.

Milk contains more than enough of the amino acids which are lacking in proteins from most plant sources, and is a good supplement to any cereal or vegetable.

But how does all this work out when you are planning meals? Well, protein is absolutely necessary to life, and is a substance that the body cannot store as it does fat. Children must have protein to build their bodies, and adults and children alike must have it for body repair -- to make up for the wear and tear upon bodies already built. But too much protein food is not a good thing, because the body must dispose somehow of the surplus protein beyond its needs, and this excess may give trouble. So the amount of protein we eat -- our "protein intake" -- is a matter of considerable importance.

Fortunately, the margin between enough and too much protein is fairly wide, and need not restrict most people seriously. Much depends upon habits of life. People who lead active lives out of doors can use more protein than less active people who live chiefly indoors. Something depends upon the size of the individual, too, for big bodies have more muscle, bone, and blood to keep in repair. But children need proportionately more protein than adults, because children need it for growth. That is one reason why nutritionists would have all growing children use a quart of milk a day. Milk is a building food for several reasons, one being the protein it contains, which supplements or makes efficient the proteins from the child's other food.

For the average adult, nutritionists say that 1 or 2 average servings of protein-rich foods a day is ordinarily enough, not counting milk. With an egg for breakfast, say, and meat for dinner, plus the proteins from bread, cereals, vegetables and fruits, the day's supply of protein is ample. Without meat or fish or eggs or cheese, you need other protein foods -- for example, a nut or peanut loaf, or soybeans, along with more milk and vegetables.

Good sources of protein are such "made dishes" as chowders, because they are made either of fish or sea food, vegetables and milk; meat-and-vegetable stews, meat loaves, shepherd's pie, or any other meat-and-breadstuff or meat-and-vegetable mixture; codfish with spaghetti and tomatoes; creamed finnan haddie or other creamed fish or sea food; cheese toast; corn, tomatoes and cheese on toast; Welsh rabbit, tomato rabbit, cheese souffle; macaroni and cheese, scalloped vegetables in cheese sauce, or any other cheese dish; corn pudding, with its milk and eggs as well as corn; peanut loaf, scalloped onions-and-peanuts, or any mixture with peanuts or peanut butter; chili con-carne, and soybeans, green or dried.

So much for muscle-building foods.

#####

